What Is Claimed Is:

1. A surgical fastener for clamping surfaces of a plurality of layers of material together, comprising:

a ribbon wire having a substantially rectangular cross-section, first and second ends and made from a material which enables the ribbon wire to be transformed from a first stressed elongate shape to a second unstressed shape upon the release of said ribbon wire from a stressed condition, the first stressed elongate shape of said ribbon wire enabling its first end to be extended through the plurality of layers of material, and with the second shape of said ribbon wire being in the form of a spring with a plurality of coils around a spring axis, with the coils being spring biased towards each other along the spring axis with sufficient axial force so as to enable coils on opposite sides of the layers to clamp the layers of material together along the spring axis.

2. The surgical fastener according to claim 1 wherein said ribbon wire has an axial thickness and a

radial thickness, said axial thickness is parallel to the spring axis, said radial thickness is perpendicular to the axial thickness, and the axial thickness is greater than the radial thickness.

3. The surgical fastener according to claim 1 wherein the ribbon wire forms a notch therein, and the notch is configured for engagement with a push rod.

4. The surgical fastener according to claim 1, and further including:

a needle for penetrating said layers and having a lumen sized to slidingly receive said ribbon wire in its first shape and an externally manipulatable push rod sized to slidingly move through said lumen to advance said ribbon wire stored therein to a distal end of the needle to enable a distal portion of said ribbon wire to resume its unstressed coiled shape on the one side of said layers of material when projected from said lumen by the push rod while another portion of said ribbon wire remains within said lumen in said stressed shape until ejected from said lumen by said

push rod on the other side of said layers of material to form an unstressed coiled shape to clamp the layers of material together.

5. The surgical fastener according to claim 1, wherein one of the layers is tissue and wherein said coils are spring biased so as to produce between said coils a sufficiently high compressive hemostasis gripping force when said tissue and said other layer of material are between said pair of adjacent coils to maintain said tissue and said layer of material in sealed contact with each other.

6. A surgical fastener delivery system for securing together a plurality of layers of material, comprising:

a ribbon wire having a substantially rectangular cross-section, first and second ends and made from a material which enables said ribbon wire to be transformed from a first substantially straight elongate prestressed wire shape to a second unstressed shape upon a removal of the stress upon said ribbon

wire, the first shape of the element enabling its first end to be extended through the layers of material, and with the second shape of the element including a plurality of spring biased coils around an axis and urged towards each other to provide a clamping force along the axis;

a restraining tube in the form of a needle having a lumen sized to slidingly receive said ribbon wire in its first prestressed elongate wire shape and store the ribbon wire in said elongate wire shape under said stress; and

an externally manipulatable push rod sized to slidingly move through said lumen to advance said ribbon wire stored therein to a distal end of the restraining tube; and

a stop located on the push rod and oriented so as to project a predetermined distal portion of said ribbon wire from the tube after its penetration of the layers of material to enable the formation of a coiled shape on a distal side of the layers of material, whereby emergence of said entire ribbon wire from the lumen in response to further actuation of said push rod

removes said stress upon said ribbon wire so that it can assume its second coiled shape on a proximate side of the layers of materials and grip the layers of material between coils of said ribbon wire.

7. A surgical fastener delivery system for securing together a plurality of layers of material, comprising:

a ribbon wire having a substantially rectangular cross-section, first and second ends and made from a material which enables said ribbon wire to be transformed from a first substantially straight elongate prestressed wire shape to a second unstressed shape upon a removal of the stress upon said ribbon wire, the first shape of said ribbon wire enabling its first end to extend through the layers of material, and with the second unstressed shape of said ribbon wire including a plurality of spring biased coils around an axis and urged towards each other to provide a clamping force along the axis;

a restraining tube in the form a needle having a lumen sized to slidingly receive said ribbon wire in its first prestressed elongate wire shape and store the element in said straight shape under said stress; and

an externally manipulatable push rod sized to slidingly move through said lumen to advance said ribbon wire stored therein to a distal end of the restraining tube;

a sleeve to slidingly receive the needle and limit its advance there through;

a first stop located and operative between said sleeve and said needle so as to in effect limit advance of said needle after it has penetrated the layers of material;

a second stop element attached to the push rod and operative with respect to said needle for projecting a predetermined distal portion of said ribbon wire from the lumen with a withdrawal of the needle while maintaining the position of said push rod to enable the distal projected and unstressed portion of said ribbon wire to form coils on a distal side of the layers of

material with the coils being oriented around an axis that is aligned with the lumen;

whereby subsequent full withdrawal of the needle from said sleeve releases an unstressed proximate portion of said ribbon wire from the lumen on a proximate side of the layers of material to form coils on said proximate side so that said coils of said unstressed ribbon wire can clamp the layers of material together.

8. The surgical fastener delivery system of claim 5, wherein the first and second stops are pivotally attached to the push rod.

9. A surgical fastener delivery system for securing together a plurality of layers of material, comprising:

a ribbon wire having a substantially rectangular cross-section, first and second ends and made from a shape memory alloy that enables said ribbon wire to be transformed from a first substantially straight prestressed shape to a second shape upon a removal of

the stress upon said ribbon wire, the first shape of said ribbon wire enabling its first end to penetrate the layers of material, and with the second end of the second shape of said ribbon wire including a plurality of coils around a spring axis being spring biased toward each other along said spring axis;

a needle having a lumen sized to slidingly receive said ribbon wire in its first shape and store said ribbon wire under said stress; and

an externally manipulatable push rod sized to slidingly move through said lumen to advance said ribbon wire stored therein to a distal end of the needle; and

stops located to limit movements of said push rod through said needle to obtain a secure and reliable placement of said ribbon wire after its release from the lumen by the push rod.

10. A method for inserting a surgical fastener into a plurality of layers of material, the steps comprising:

providing a ribbon wire having a substantially rectangular cross-section, first and second ends and made from a material which enables said ribbon wire to be transformed from a first substantially straight shape to a second shape upon a removal of stress on said ribbon wire, the first shape of said ribbon wire enabling its first end to penetrate the plurality of layers of material, wherein the second shape of said ribbon wire includes a plurality of coils which are spring biased towards each other along an axis;

placing said ribbon wire under stress in a restraining device;

advancing the first end from the restraining device through the layers of material such that said ribbon wire projects in an unstressed state to form at least one coil on a distal side of the plurality of layers of material;

withdrawing the restraining device on a proximate side of the plurality of layers of material such that stress from the restraining device is removed and said ribbon wire transforms from the first shape to the

second shape with at least one coil on said proximate side whereby coils at the first and second ends of said ribbon wire axially press the plurality of layers of material together.

11. The method for inserting a surgical fastener of claim 10, wherein the restraining device is a needle, and further comprising the step of penetrating the needle through the layers of material such that said ribbon wire penetrates the plurality of layers of material.

12. The method for inserting a surgical fastener of claim 10, further comprising the steps of:

guiding the needle through a sleeve; and

limiting an advance of the needle through the sleeve.

13. The method for inserting a surgical fastener of claim 10, further comprising the steps of:

placing a sleeve against a proximate side of the layers of material; and

guiding the restraining device with said ribbon wire through the sleeve and advancing the restraining device through the layers of material sleeve for a predetermined distance determined by the sleeve.

14. The method for inserting a surgical fastener of claim 10, further comprising the steps of:

guiding the restraining device through a sleeve; and

limiting an advance of the restraining device through the sleeve.